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STATE OF CALIFORNIA—THE RESOURCES AGENCY
GEORGE DEUKMEJIAN, Governor

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Air Docket (LE-131)
Room M-1500
401 M. Street SW
Washington, DC 20460

To The Docket:

This correspondence contains our comments regarding the submittal, by the Ethyl Corporation, for a waiver to use the additive MMT (methylcyclopentadienyl manganese tricarbonyl) in unleaded gasoline. The ARB's overall concerns center on: (1) the potential "poisoning" of catalytic converters and oxygen sensors and (2) the unknown health effects associated with low ambient concentrations of manganese.

With respect to the poisoning of emission control devices, the vehicle testing conducted by Ethyl Corporation involved current technology. The ARB's newly proposed emission standards are likely to require new technology, some of which is currently in the developmental stage, e.g., electrically-heated catalytic converters. Besides the unknown effects of manganese on this new technology, the ARB is concerned that the anticipated lowering of emission standards will lead to an increased sensitivity of emission control systems with respect to catalyst and oxygen sensor durability. Since the ARB proposed standard for "ultra low emission vehicles" will be 0.04 g/mi NMHC, a small increase in HC mass emissions can represent a large percentage increase in emissions. Thus, the small HC emission increase that the Ethyl Corporation found between 1000 and 5000 odometer miles may be magnified for vehicles meeting a 0.04 g/mi NMHC standard. From the above, the ARB recommends that emission testing also be performed on vehicles equipped with electrically-heated catalytic converters. EPA has stated in a previous waiver denial that "where the emissions technology is available and imminent, and is reasonably certain to be applied in a prospective model year, the effects of MMT upon such technology should be examined" (43 FR 41424, 41426, September 18, 1978).

We have some additional concerns regarding the amount of manganese retained in the vehicle. Ethyl Corporation reports .4% of the additive as being emitted from the tailpipe. Thus, 99.6% is retained in either the catalytic converter, the exhaust system, or the sampling train. If it is assumed that the bulk of the manganese is retained in the converter, then approximately 60 grams will accumulate in the converter over 50,000 miles of use (assuming a fuel economy of 25 mi/gal). It is difficult to conceive that this loading would not effect catalyst performance.

With respect to the health effects of manganese, the ARB is concerned with the current lack of information regarding chronic exposure to low ambient levels of manganese. Since the EPA is authorized to regulate fuel additives pursuant to section 211(a) and (b) of the Clean Air Act, in order to protect public health, the ARB recommends that the Ethyl Corporation submit additional health information in accordance with section 211(b). Specifically, the information should address the incremental effects of manganese added to the ambient air as a result of MMT usage.

Most importantly regarding this issue, the California Code of Regulations (CCR, Section 2254, Title 13) states that "...effective September 8, 1977, no person shall add manganese or any manganese compound, including the compound methylcyclopentadienyl manganese tricarbonyl (MMT), to unleaded gasoline intended to be sold, offered for sale, or delivered for sale at retail in the State of California." The Air Resources Board is strongly committed to the enforcement of this regulation.

To reiterate, we strongly discourage approval of the waiver and fully intend to enforce the California regulation banning the use of manganese as an additive in unleaded gasoline. We appreciate the opportunity to express our concerns. Should you have any questions regarding the above, please call Jim Lyons, Manager of the Toxics & Fuels Section at (818) 575-6621.

Sincerely,

K. D. Drachand, Chief
Mobile Source Division

cc: Mary T. Smith, EPA